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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/286,575	04/05/1999	THOMAS N. PACKARD		5197

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EXAMINER	
FLANDERS, ANDREW C	
ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/286,575	PACKARD, THOMAS N.	
	Examiner	Art Unit	
	Andrew C. Flanders	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34,47-53 and 63* is/are rejected.

7)☒ Claim(s) *35-46,53-62 and 64-73* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 April 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because section 1.84 (1) of the Patent Rules state 'All drawings must be made by a process which will give them satisfactory reproduction characteristics. Every line, number, and letter must be durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined." Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 34, 53 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 34 claims a low frequency attenuated connected to the at least two input signals and then further states a switcher coupled to the low frequency attenuators. Clarification is requested as it is unclear whether there is one low frequency attenuator attached or multiple.

Regarding Claims 53 and 63, it is unclear to the examiner whether or not there are multiple differential output signals. Claims 53 and 63 recite a differentiating stage

that outputs a differentiated signal. It appears from this limitation that there is one differentiating stage. However, the claims also recite a divider stage to dive one of the differentiated output signal and program component signal by the other. It is unclear whether the other signal applicant is claiming is a second differentiated signal or not. Clarification is requested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takenaka (U.S. Patent 6859,540) in view of Burns (U.S. Patent 4,155,041).

Regarding **Claim 47**, Takenaka discloses a system for reducing noise in an input signal (title), comprising:

a filter for subdividing the frequencies included in the input signal into at least two ranges of frequency signals to provide at least two filter signals (i.e. a filter bank consisting of a low pass filter, two band pass filters and a high pass filter; fig. 4 elements 31a, 31b, 31e, and 31f); and

a noise detector coupled to each of the at least two filter signals and configured to detect instantaneous transient noise as an instantaneous level of a signal that is greater than the average signal level by a predetermined proportion to the average level in the respective filter signal (i.e. a signal is further applied to a level detector 34a wherein a signal level of the output of the waveform shaping circuit 33a is detected. The signal level is fed to a comparator 35a. The comparator 35a is applied with the threshold determined by the controller 26 of FIG. 4 so that the signal level from the level detector 34a is compared with the threshold. The output of the comparator 35a is fed to an attenuator 36a. When the output signal level is higher than the threshold, the attenuator 36a is not operated. On the other hand, when the signal level is lower, the attenuator 36a attenuates the music signal; col. 5 lines 10 – 22 and Fig. 4).

Takenaka does not disclose a switch coupled to each detector to provide the respective filter signal to a blanker output terminal when transient noise is not detected by the respective detector, and to deny filter signal to the output terminal whose amplitude is greater than the average signal level by a predetermined proportional amount, when transient noise is detected by the respective detector.

Burns discloses:

a switch coupled to each detector to provide the respective filter signal to a blanker output terminal when transient noise is not detected by the respective detector, and to deny filter signal to the output terminal whose amplitude is greater than the average signal level by a predetermined proportional amount, when transient noise is detected by the respective detector (i.e. a process of eliminating or suppressing

individual noise transients by a first step that shall be designated as "switching" and a second step that shall be designated as "blanking"; col. 2 lines 50 – 55; and the blanking step detects noise transients and inserts a band elimination filter into the signal circuit such that the noise transient is eliminated; col. 3 lines 9 – 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Burns switch and banking method to the noise reduction device disclosed by Takenaka. One would have been motivated to add Burns to Takenaka in order to remove other problems that are associated with sound reproduction such as crackle or ticks, in order to make the listening experience more pleasurable.

Regarding **Claim 48**, in addition to the elements stated above regarding claim 47, the combination of Takenaka in view of Burns further discloses:

wherein the filter subdivides the mixed signal into a low frequency filter signal (i.e. a Low pass filter; Fig. 4 element 31a in Takenaka);

that is coupled to a low frequency noise detector (i.e. a level detector; Fig. 4 element 34a in Takenaka);

and a low frequency switch (i.e. a switching step; col. 2 lines 50 – 55 in Burns);

and a comparatively high frequency filter signal (i.e. a high pass filter; Fig. 4 element 31f in Takenaka);

that is coupled to a high frequency noise detector (i.e. a level detector; Fig. 4 element 34f in Takenaka);

and a high frequency switch (i.e. a switching step; col. 2 lines 50 – 55 in Burns).

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takenaka (U.S. Patent 6859,540) in view of Burns (U.S. Patent 4,155,041) and in further view of Takayama (U.S. Patent 5,303,415)

Regarding **Claim 49**, the combination of Takenaka in view of burns does not disclose the limitations of claim 49.

Takayama discloses:

wherein the low frequency switch is coupled to the high frequency noise detector such that the low frequency switch is prevented from decoupling the low frequency filter signal to the output terminal except when the high frequency detector has concurrently detected a noise transient in the high frequency signal (Fig. 1 elements 33 and 21; the switch is connected to the level detecting portion which is connected to the high pass filter output from the amplifier).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply Takayama's switch teachings to the combination of Takenaka in view of burns. One would have been motivated to do so in order to remove unwanted pulse noise in a signal; see Takayama col. 4 lines 17 – 37.

Regarding **Claim 50**, in addition to the elements stated above regarding claim 49, the combination of Takenaka in view of Burns and in further view of Takayama further discloses:

wherein the duration of the prevention is a predetermined period of time (i.e. the device removes pulses of short durations; col. 3 lines 14 – 20 in Burns).

Regarding **Claim 51**, in addition to the elements stated above regarding claim 49, the combination of Takenaka in view of Burns and in further view of Takayama further discloses:

wherein the low frequency noise detector is coupled to the high frequency noise detector such that the high frequency detector is decoupled from the high frequency filter signal filter signal when a noise transient is detected by the low frequency detector (i.e. Fig. 1 elements 33 and 21; the switch is connected to the level detecting portion which is connected to the high pass filter output from the amplifier in Takayama; and the blanking step detects noise transients and inserts a band elimination filter into the signal circuit such that the noise transient is eliminated; col. 3 lines 9 – 20 in Burns).

Regarding **Claim 52**, in addition to the elements stated above regarding claim 51, the combination of Takenaka in view of Burns and in further view of Takayama further discloses:

wherein the high frequency detector is decoupled from the high frequency filter signal for a predetermined period of time when instantaneous transient noise is

detected by the low frequency detector (i.e. and the blanking step detects noise transients and inserts a band elimination filter into the signal circuit such that the noise transient is eliminated; col. 3 lines 9 – 20 in Burns);

Allowable Subject Matter

Claims 34 and 63 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 53 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 35 – 46, 54 – 62 and 64 – 73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SINH TRAN
SUPERVISORY PATENT EXAMINER

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